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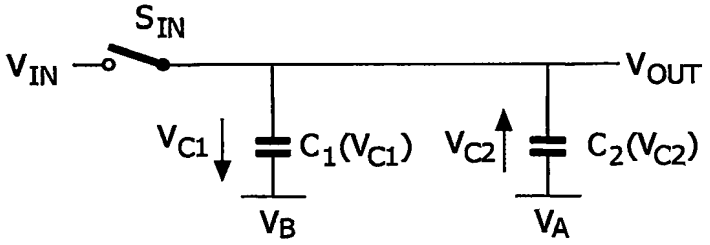
(54) Title: CIRCUIT FOR SIGNAL AMPLIFICATION AND USE OF THE SAME IN ACTIVE MATRIX DEVICES



(57) Abstract: An amplification circuit comprises a capacitor arrangement (42) and a switching arrangement. The capacitor arrangement has a first capacitor (C2) which has a voltage-dependent capacitance and a second capacitor (C1) (which may also be voltage-dependent). The circuit is operable in two modes, a first mode in which the input voltage is provided to one terminal of at least the first capacitor, and a second mode in which the switching arrangement causes charge to be redistributed between the first and second capacitors such that the voltage across the first capacitor changes to reduce the capacitance of the first capacitor, the output voltage being dependent on the resulting voltage across the first capacitor. The invention uses a voltage controlled capacitance in combination with charge sharing between capacitors, which has the result of providing a voltage amplification characteristic. This arrangement can thus be used for the amplification of an analogue voltage, or the boosting of a fixed level (i.e. digital voltage). Thus, the circuit of the invention can be used for level shifting or amplification, for example for use in the pixels of an active matrix array device.

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